

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the **reissuance** of the VPDES permit listed below. This permit is being processed as a **Minor, Municipal** permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et.seq. The discharge results from the operation of a 0.800 MGD wastewater treatment plant consisting of screening, grit removal, biological treatment by sequenching batch reactors, ultraviolet light disinfection, aerobic sludge digestion, septage receiving station, and sludge belt press. This permit action consists of limiting pH, CBOD₅, total suspended solids, total Kjeldahl nitrogen, E.coli, and dissolved oxygen; and including special conditions regarding compliance reporting, control of significant dischargers, sludge use and disposal and other requirements and special conditions. SIC Code: 4952.

1. Facility Name and Address:
Hickory Flats WWTP
229 Treatment Plant Road
Jonesville, VA 24263
2. **Permit No. VA0089397**
Previous Permit Effective Date: 11/27/2011
Previous Permit Expiration Date: 11/26/2016
3. Owner: Lee County Public Service Authority
Owner Contact: Tracy Puckett
Title: Director
Telephone No: 276-346-7775
Owner Address: P.O. Box 830
Jonesville, VA 24263
4. Application Complete Date:
Permit Drafted By: Fred M. Wyatt Date: August 22, 2016
Reviewed By: Steve E. Arny Date: 9/2/2016
Public Comment Period Dates: From _____ to _____
5. Receiving Stream Name: Powell River; River Mile: 6BPOW150.98; Basin: Tennessee-Big Sandy River; Subbasin: Clinch River; Section: 1; Class: IV; Special Standards: None. Lat.: 36°41'50.7"; Long.: 83°01'3.5"

7-Day, 10-Year Low Flow (7Q10): 16.8 MGD (June - Nov.)
1-Day, 10-Year Low Flow (1Q10): 15.5 MGD (June - Nov.)
7Q10 High Flow: 33.6 MGD (Dec. - May)
1Q10 High Flow: 26.5 MGD (Dec. - May)
30-Day, 10-Year Low Flow: 20 MGD (June - Nov.)
30Q10 High Flow: 66 MGD
30-Day, 5-Year Low Flow (30Q5): 24 MGD
Harmonic Mean Flow (HM): 88 MGD

Tidal? No

On 303(d) list? Yes (See Item # 13 below)

VPDES PERMIT FACT SHEET

PAGE 2

6. Operator License Requirements: Class II
7. Reliability Class: III
8. Permit Characterization:
() Private () Federal () State (X) POTW () PVOTW
() Possible Interstate Effect () Interim Limits in Other Document
9. Attach a schematic of wastewater treatment system, and provide a general description of the activities of the facility.

Discharge Description

OUTFALL NUMBER	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001	Town of Jonesville, Lee County Industrial Park, federal prison, & communities of Woodway and Dot	See Page 1 above, first paragraph	0.800 MGD

- (1) List operations contributing to flow (2) List treatment units
(3) Design flow

10. Sewage Sludge Use or Disposal: Dual aerobic digesters stabilize the sludge. A belt filter press and polymer dosing system dewater the sludge. The sludge is hauled to the Iris Glen Environmental Center, John City, Tennessee for final disposal.
11. Discharge Location Description: See attached Ben Hur, VA Quadrangle; Number: 030A
12. Material Storage: None reported
13. Ambient Water Quality Information: Hickory Flats WWTP discharges to stream segment VAS-P21R_POW02A02 of the Powell River. This segment extends from the confluence of Station Creek downstream to the confluence of Town Creek, south of Jonesville, WQS Section 1. This segment is included in the "E.coli and Phased Benthic Total Maximum Daily Load Development for Powell River and Tributaries (North Fork Powell River, South Fork Powell River, Butcher Fork, and Wallen Creek)". This document was approved by EPA on 03/10/2011 but has not been approved by the State Water Control Board.

This segment was initially listed as impaired for bacteria. It was delisted in 2012 but was listed for aquatic life impairment in 2012. The impairment is listed benthic-macroinvertebrate bio-assessments and the cause is sedimentation/siltation. The sources are listed as agriculture, coal mining, impacts from abandoned mine lands (inactive), and unrestricted cattle access.

14. Antidegradation Review & Comments:
Tier 1 _____ Tier 2 (X) Tier 3 _____

VPDES PERMIT FACT SHEET

PAGE 3

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. Since the original effluent limitations for the 0.800 MGD facility were based on Tier 2 restrictions, the receiving stream is Tier 2.

15. Site Inspections: Technical Inspection by Allen Cornett on 09/24/2015, SWRO; Reconnaissance Inspections by Allen Cornett on: 09/24/2014, 12/18/2014, 05/23/2014, 05/08/2014, 02/11/2014, 01/15/2014, 12/27/2013, 10/24/2013, 09/26/2013, 08/21/2013, 07/23/2013, 06/20/2013, 05/27/2013 and 05/23/2013; Reconnaissance Inspections by Allen Cornett and Wade Carico on 05/07/2013, 04/15/2013, 12/18/2012, 09/24/2012, and 05/01/2012; Reconnaissance Inspection by Wade Carico on 12/04/2012; Reconnaissance Inspection by Danny Petty on 05/01/2012.
16. Effluent Screening & Limitation Development: Since the receiving stream flows have not significantly changed since the previous issuance, effluent limitations are not being reevaluated.
 - a. pH: A pH range of 6.0 - 9.0 standard units is assigned to Class IV waters per the Virginia Water Quality Standards.
 - b. CBOD₅, TKN, and Dissolved Oxygen: The staff used the steady state Streeter Phelps Regional Modeling System (V 3.2) to project acceptable effluent limitations for dry season and wet season carbonaceous biochemical oxygen (CBOD₅), total kjeldahl nitrogen, and dissolved oxygen. Dry and wet 7Q10 flow frequencies were used in these calculations. Ammonia nitrogen values were also calculated by subtracting a 3 mg/l refractory nitrogen value from the TKN model values and the resulting values were much lower than the ammonia nitrogen toxicity values which were calculated based on the Virginia Water Quality Standards. Due to antidegradation restrictions, the more restrictive model TKN values were placed in the VPDES Permit.
 - c. Total Suspended Solids: Total Suspended Solids effluent concentrations are 30 mg/l monthly average and 45 mg/l weekly average, which are the minimum Federal secondary treatment levels.

VPDES PERMIT FACT SHEET

PAGE 4

- d. *E.coli* Bacterial Standards: A geometric mean limit of 126 n/100 ml was assigned to these Class IV waters, per the Virginia Water Quality Standards.

Basis for Effluent Limitations: 0.800 MGD

PARAMETER	BASIS FOR LIMITS *	DISCHARGE LIMITS				MONITORING REQUIREMENTS	
		MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow	NA	NL	NA	NA	NL	Continuous	Totalizing Indicating & Recording
PH	2	NA	NA	6.0 SU	9.0 SU	1/Day	Grab
CBOD ₅ (June-Nov.)	1,5	20 mg/l 61 kg/d	30 mg/l 91 kg/d	NA	NA	3 Days/Week	8 Hour Comp.
CBOD ₅ (Dec.-May)	1,5	25 mg/l 76 kg/d	38 mg/l 110 kg/d	NA	NA	3 Days/Week	8 Hour Comp.
Total Suspended Solids	1	30 mg/l 91 kg/d	45 mg/l 140 kg/d	NA	NA	3 Days/Week	8 Hour Comp.
Total Kjeldahl Nitrogen (TKN) (June-Nov.)	5	8 mg/l 24 kg/d	12 mg/l 36 kg/d	NA	NA	3 Days/Week	8 Hour Comp.
E.coli (n/100 ml)	2	126***	NA	NA	NA	3 Days/Wk. ****	Grab
Dissolved Oxygen	2,5	NA	NA	6.5	NA	1/Day	Grab

- *1. Federal Effluent guidelines
2. Water Quality-based Limits:
3. Best Engineering Judgement
4. Best Professional Judgement
5. Other (e.g. wasteload allocation model)

** Express limits in units of concentration (mg/l) and or mass (kg/d)

*** Geometric Mean

**** Between 10:00 a.m. and 4:00 p.m.

17. Basis for Sludge Use and Disposal Requirements: VPDES Permit Regulation, 9VAC25-31-100 P; 220 B.2.; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.
18. Antibacksliding Statement: Since no effluent limitations are being relaxed in this reissuance, the antibacksliding provisions of the Permit Regulation (9 VAC 25-31-220.1) do not apply.
19. Compliance Schedule: NA

20. Special Conditions:

PART I.B. Special Condition - Compliance Reporting

Rationale: Authorized by VPDES Permit Regulation, 9VAC25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

PART I.C. Special Condition - Control of Significant Dischargers

Rationale: VPDES Permit Regulation, 9VAC25-31-730 through 900, and 40 CFR part 403 require certain existing and new sources of pollution to meet specified regulations.

PART I.D. Other Requirements and Special Conditions

1. 95% Capacity Reopener

Rationale: Required by VPDES Permit Regulation, 9VAC25-31-200 B 4 for all POTW and PVOTW permits

2. Indirect Dischargers

Rationale: Required by VPDES Permit Regulation, 9VAC25-31-200 B 1 and B 2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

3. CTC, CTO Requirement

Rationale: Required by the Code of Virginia § 62.1-44.19: Sewage Collection and Treatment Regulations, 9VAC25-790.

4. Operation and Maintenance Manual Requirement

Rationale: Required by the Code of Virginia § 62.1-44.19: Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190

5. Licensed Operator Requirement

Rationale: The VPDES Permit Regulation, 9VAC25-31-200 C and the Code of Virginia § 54.1-2300 et seq, Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professional Regulations (18VAC160-20-10 et seq.), require licensure of operators.

6. Reliability Class

Rationale: Required by the Sewage Collection and Treatment Regulations, 9VAC25-790 for all municipal facilities.

7. Treatment Works Closure Plan

Rationale: This condition establishes the requirement to submit a closure plan for the treatment works if the treatment facility is being replaced or is expected close. This is necessary to ensure treatment works are properly closed so that the risk of untreated waste water discharge,

spills, leaks, or other exposure to raw materials is eliminated and water quality is maintained. Section 62.1-44.21 requires every owner to furnish when requested plans, specifications, and other pertinent informations as may be necessary to determine the effect of the wastes from this discharge on the quality of state waters, or such other information as may be necessary to accomplish the purpose of the State Water Control Law.

8. Section 303(d) List (TMDL) Reopener

Rationale: Section 303(d) of the Clean Water Act requires the total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it in compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in the permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under Section 303 of the Act.

9. Sludge Reopener

Rationale: Required by VPDES Permit Regulation, 9VAC25-31-220 C for all permits issued to treatment works treating domestic sewage.

10. Sludge Use and Disposal

Rationale: VPDES Permit Regulation, 9VAC25-31-100 P; 220 B.2.; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.

21. Changes from the previous permit contained in the reissuance permit:

This permit has been drafted using guidance provided in the March 27, 2014 permit manual which is updated on a continual basis, resulting in minor changes to permit requirements and conditions.

PART I C.1. - The quantification level (QL) for CBOD₅ has been changed from 5 mg/l to 2 mg/l in accordance with recommendations from the Office of Water Permits and Standard Methods 22nd Edition.

A footnote has been added in PART I A. requiring monitoring for CBOD₅, total suspended solids, and E.coli to be conducted on Monday, Wednesday, and Thursday or Friday.

The special condition for submittal of an operations and maintenance manual has been updated and does not require DEQ approval unless requested by DEQ.

Water Quality Criteria Monitoring and Attachment A are not being included since this testing was required in the previous permit and the data

VPDES PERMIT FACT SHEET

PAGE 7

submitted with the reissuance application indicates no water quality standards violations.

Since the permittee does not land apply, the land application option for biosolids, previously included in the VPDES Permit, is not being included in the reissuance permit. Special conditions regarding land application of biosolids, biosolids limitations and monitoring requirements and soil monitoring requirements for land application sites have been removed.

In accordance with current agency policy to make the effective date of permits the first day of the month, the effective date of the reissued permit will be December 1, 2016 instead of the November 27, 2016 date based on the current expiration date. The existing permit is being administratively continued by DEQ to cover this gap.

PART II of the permit has been updated to comply with the March 27, 2014 updated permit manual as follows:

A.1.c - Added VELAP special condition which requires samples to be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories per VPDES Permit Manual.

A.2. - Clarified that operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

I.3. - Added language which allows for the Reporting of Non-Compliance activities to be submitted online in addition to reporting them by means of a telephone call.

Reduced Monitoring: The WWTP facility does not qualify for reduced monitoring under EPA's Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies, due to numerous system overflows during the previous permit cycle and the Consent Order issued by the SWCB on April 10, 2012.

22. Variances/Alternate Limits or Conditions: None

23. Regulation of Users: 9 VAC 25-31-280 B 9 - NA

24. Public Notice Information required by 9 VAC 25-31-280 B: **HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING:** DEQ accepts comments and requests for public hearing by hand delivery, e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all the persons represented by the commenter/requester. A request for a public hearing must also include; 1) The reason why a public hearing is requested.

VPDES PERMIT FACT SHEET

PAGE 8

2) A brief, informal statement regarding the nature and extent of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit and suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:

Name: Fred M. Wyatt

Address: DEQ, Southwest Regional Office, 355-A Deadmore Street,
Abingdon, VA 24210; Phone: (276) 676-4810 E-mail:
frederick.wyatt@deq.virginia.gov Fax: (276) 676-4899

25. Additional Comments:

Previous Board Action: The Lee County PSA is under a Consent Order with DEQ due to DMR final effluent permit limit violations, overflows and maintenance issues at the Town's wastewater treatment plant. The Consent Order, effective April 10, 2012, contains a Schedule of Compliance for Phases I and II VCWRLF projects for a new diffused air system in the aerobic digesters, replacement of the Litton Pump Station, replacement of Aerator No. 3 in SBR No. 2, an odor control system and other miscellaneous equipment. The Schedule of Compliance also requires repair of other specified equipment.

Phases I and II VCWRLF projects are complete. Work is nearing completion on Phase III, which also has VCWRLF funding, but is not included nor required by the Consent Order. The only outstanding item in the Consent Order's Schedule of Compliance is submittal of a written certification to DEQ that all equipment associated with all pump stations within the PSA's sewer system is operational and in a good state of repair. PSA staff has indicated that all pump stations are operational, with two operating pumps in each, and that the required certification will be provided when the Phase III project, which includes some additional work at pump stations, is completed.

Staff Comments:

Permit History: VPDES Permit No.VA0089397 was issued on November 20, 1996, was reissued on November 26, 2001, November 27, 2006, and November 27, 2011 and has an expiration date of November 26, 2016.

Application Waivers: The permittee has requested and the staff is granting a waiver for the following information in application Form 2A:

PART B.6., EFFLUENT TESTING DATA: Ammonia nitrogen, total residual chlorine, nitrate plus nitrite nitrogen, oil and grease, total phosphorus, and total dissolved solids.

VPDES PERMIT FACT SHEET

PAGE 9

The rationale for granting these waivers is that the existing VPDES permit does not require testing of these parameters and that the parameters in the existing permit are sufficient for the protection of water quality.

Permit Fee: A permit application fee is not required. Only an annual maintenance fee is required, to be paid by October 1 of each year.

Threatened or Endangered Species: This section of Powell River is both federal and state T&E waters, with several T&E species having been confirmed in this stream. This facility is on the DEQ's list for T&E coordination with the Department of Game & Inland Fisheries (DFIF), the Department of Conservation & Recreation (DCR), and the US Fish and Wildlife Service and the reissuance is being coordinated with these agencies.

Public Comment: None

26. TMDL: See item # 13 above.

VPDES PERMIT FACT SHEET
PAGE 10

PLANNING CONCURRENCE FOR MUNICIPAL VPDES PERMIT

PERMIT NO. VA0089397
FACILITY: Hickory Flats WWTP
COUNTY: Lee

- ☐ 1. The discharge is in conformance with the existing planning documents for the area.
- ☐ 2. The discharge is not addressed in any planning document but will be included, if required, when the plan is updated.
- ☐ 3. Other.

Date

ATTACHMENT 1

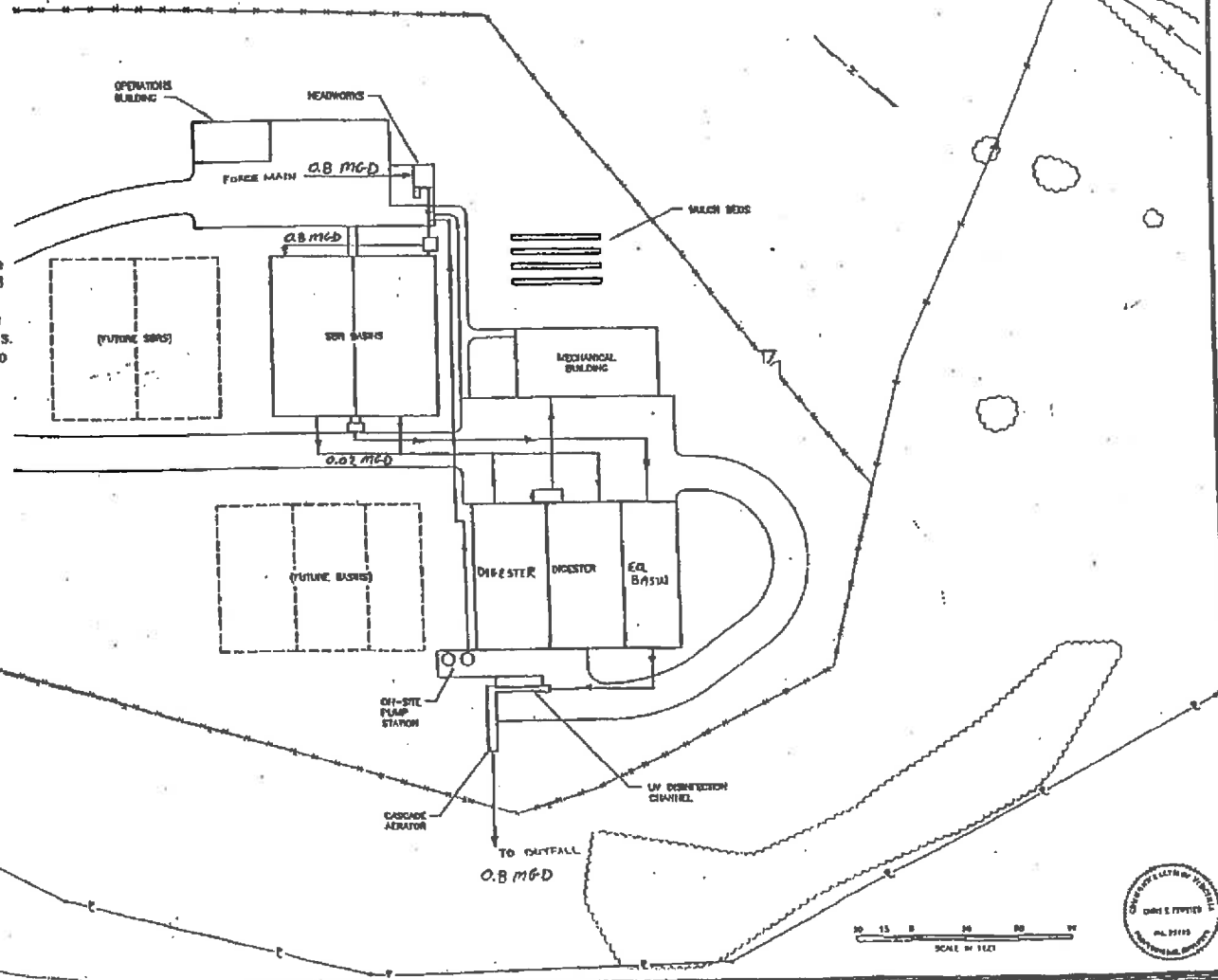
Treatment Process Diagrams & Description

Process Description

The design rate of the plant is 0.8 MGD and it receives all wastewater through one of two force mains. The initial processing generally occurs at the headworks for grit removal; although, this structure can be bypassed. Primary treatment is accomplished through two independent Sequencing Batch Reactors (SBRs). Each of these will operate five cycles per day and alternate so that while one SBR is filling, the other is either in a react, decant, or idle mode. Waste sludge is pumped from the SBRs to the Digesters for reduction. The ultimate waste sludge rate is estimated to be 0.02 MGD.

Treated effluent from the SBRs is decanted at the end of each cycle. The decant rate is approximately 4.5 MGD; therefore, the flow is passed to an Equalization Basin, where it is held and decanted at the design average flow rate of 0.8 MGD. Equalized flow is directed through a series of Ultraviolet Lamps for disinfection and then passed through a cascade aerator to increase dissolved oxygen concentrations. The plant effluent then gravity flows through the outfall line to a diffuser located in the bed of the Powell River.

Digested sludge is dewatered by a belt press in the Mechanical Building and stored in a covered area of the building, until it is disposed of off-site. Any wastewater generated on the site, as well as process overflows and drains, flow to the on-site pumps station and are pumped to the influent line of the SBRs for treatment.



ANDERSON AND ASSOCIATES, Inc.

Engineers
Surveyors
Planners

Lee County, VA
Stafford, VA
Stafford, VA
Stafford, VA

DATE: 10/01/00
SCALE: 1" = 30' (Horizontal)
DESIGNER: J. L. BROWN
CHECKER: J. L. BROWN
APPROVER: J. L. BROWN

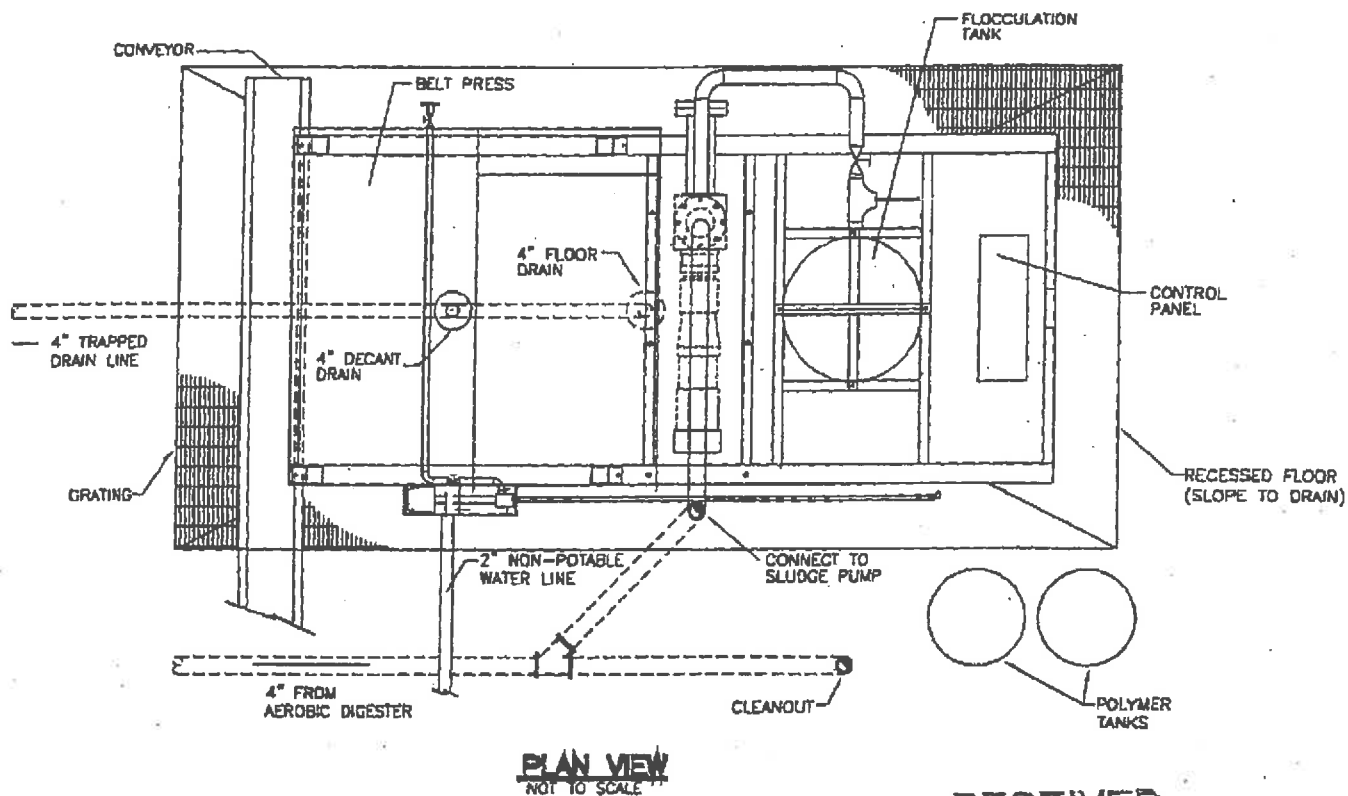
REVISIONS:

LEE COUNTY REGIONAL INFRASTRUCTURE PROJECT
DIVISION VI - WASTEWATER TREATMENT PLANT
LEE COUNTY, VIRGINIA

PROCESS LAYOUT



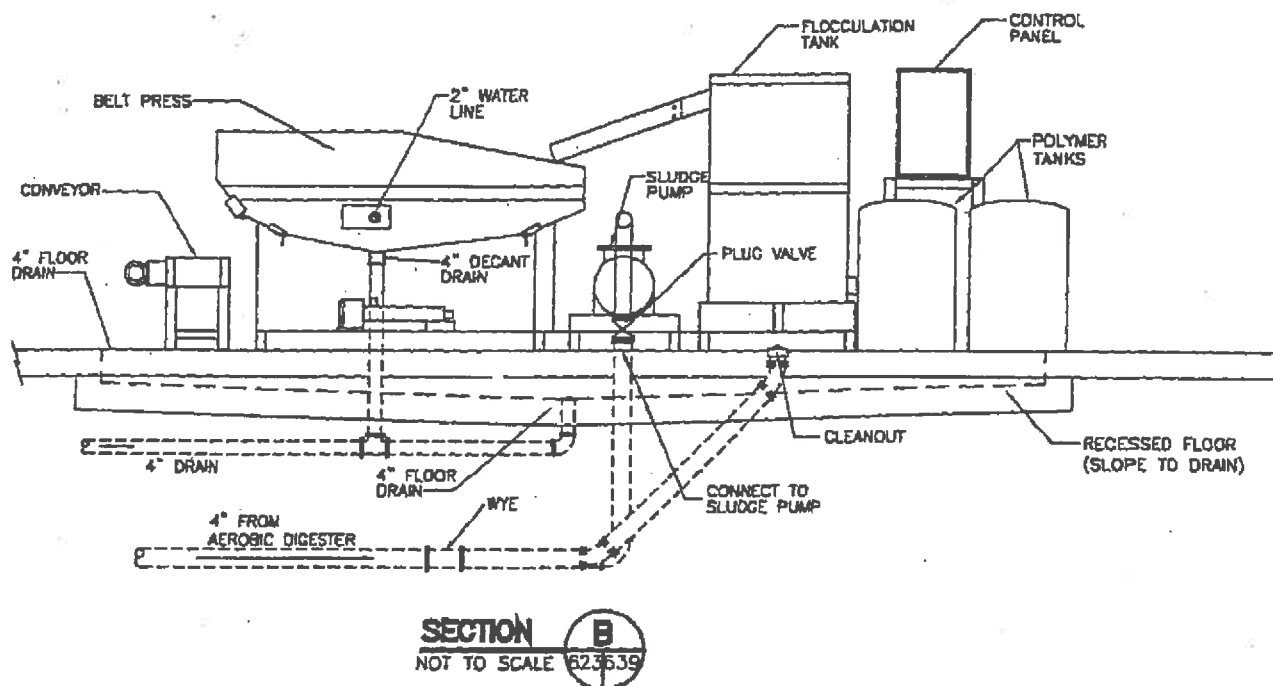
PROJECT NO.
13280-610
SHEET
610 OF 609



RECEIVED

OCT 09 2001

DEQ-SWRO



ANDERSON & ASSOCIATES, INC.

Professional Design Services

www.andassoc.com

Virginia - North Carolina - Tennessee

180 Ardmore Bl.
Blackburg, Va. 24080
540-662-0882

DRAWN	SCALE	DATE	DOCUMENT NO.
SEC	N.T.S.	05 OCT 01	13290-002

ATTACHMENT A

DIVISION VI
DESCRIPTION OF HICKORY FLATS SEWAGE TREATMENT WORKS

The subject sewage treatment works will consist of a sequencing batch reactor (SBR) system with influent metering, aerated grit chamber, biological control odor control system, dual rectangular sequencing batch reactors, dual aerobic digesters basins, dewatering equipment, post equalization basin, ultraviolet disinfection system, chemical treatment system for alkalinity adjustment, septage acceptance plant and cascade aerator. The treatment works has been designed to treat an average wastewater flow of 0.8 MGD and a peak flow of 2.0 MGD.

Grinders will be provided at the pump stations to shred solids ahead of the wastewater pumps and sewage treatment works. 12 inch and 8 inch diameter force mains will convey sewage from the sewage pump stations along the access road to the headworks.

A. INFLUENT FLOW MONITORING EQUIPMENT

The influent flow monitoring equipment will consist of a 12-inch diameter pulsed DC electromagnetic flowmeter suitable for fixed-site measurement of uni-directional flow in a full pipe. The flowmeter will indicate, totalize and transmit flow. The flow meter will be capable measuring a maximum flowrate of 24.9 MGD and will be located at the headworks prior to the aerated grit chamber. A bypass piping arrangement will be provided around the flow monitoring equipment.

B. AERATED GRIT CHAMBER

The chamber configuration will be 10-ft. length X 10-ft. width X 12-ft. depth for total volume of 1,200 cf. to provide 3 minutes of detention time for a flowrate of 4.3 MGD. The aerated grit collection equipment will consist of an aeration unit, grit lift, grit washer, and grit aeration blower. Two, 100 scfm each, blowers will be provide 50 scfm for the aerated grit chamber in order to provide 5 cfm of air per foot of chamber length.

C. BIOLOGICAL FILTER ODOR CONTROL SYSTEM

Four 50 ft. long X 3 ft. concrete mulch beds will provide contact surface for microbiological reactions to oxidize odorants from the headworks. The media in the mulch beds will consist of # 68 stone, wood chips, iron fillings and mulch. Diffused air will be provided underneath the mulch beds through a four-inch diameter PVC plastic perforated pipe to prevent accumulation of odorous gases.

D. SEQUENCING BATCH REACTORS (SBR)

Dual rectangular concrete basins, each with these dimensions

Length	90.0 ft.
Width	45.0 ft.
Area	4,050.0 sf.

Volume per basin (@min. SWD) = 54,270.0 cubic feet or 405,994 gallons

Volume per basin (@norm. SWD) = 68,850.0 cubic feet or 515,067 gallons

Volume per basin (@max. SWD) = 81,000.0 cubic feet or 605,961 gallon

Detention time @ Design flow and Minimum SWD: = 24.4 hours

Detention Time at Maximum Flow and Maximum SWD = 14.5 hours

Sludge Age = lbs. MLSS @ minimum SWD/design load = 7.51 days.

Manufacturer's Cycle Times for Normal Operation

	<u>Minutes</u>	
Mix Fill	35	(anoxic mix only)
React Fill	109	(aerated only)
React	35	(aerated only)
Settle	45	
Decant	64	

- Each reactor basin will be equipped with two mechanical floating mixers. Each mixer shall have a zone of complete mix of 90 X 45 feet square at 20.0 feet water depth and direct pumping rate of at least 3,125 GPM with a minimum recirculation rate of 253,000 GPM and a basin turnover of at least 2.39 minutes at maximum water level.
-
- One mechanical floating decanter will be provided for each basin. Each decanter will be rated for an average flow of approximately 3,125 GPM.
-
- The aeration system will be a fine bubble diffused air system and will be capable of delivering 1,268 SCFM per basin. The aeration system will consist of four retrievable air diffusers with a total of 25 stainless steel diffuser tubes provided for each diffuser rack.
- Three rotary positive displacement blowers will be manifolded for individual and/or combined operation for the SBR basins. Each blower will a discharge rate of 634 SCFM. Each blower will be driven by a 50 HP motor
- Each basin will be provided with one submersible non-clog transfer (waste sludge) pump capable of delivering 112 gpm at 22 feet TDH.

E. AEROBIC DIGESTION

Dual rectangular aerobic basins will use conventional air to stabilize and reduce the waste activated sludge produced by the SBR. Each basin will have the following dimensions: 80 feet long, 40 feet width and 15 feet depth for a digester volume of 48,000 cubic feet or 359,088 gallons. Both basins will be capable of storing 637, 259 gallons of solids over a 60-day period. Submersible aeration equipment will provide conventional air to the aerobic digesters.

Each aerobic digester basin will be equipped with four submersible aeration type pumps. Each pump will be provided with four coarse diffusers and be driven by a 25-hp electric motor. Each pump will be designed to transfer 46.9 pounds of process oxygen per hour to the wastewater at the design depth using atmospheric air provided to the diffuser by the air supply pipe.

One submersible centrifugal conical screw type sludge pump will be installed in each aerobic digester to transfer sludge to the medium duty sludge belt press. The pump will be capable of handling digested sludge with a solids concentration up to three percent. The design capacity of the pump will be 20 gpm @ 22 feet TDH to 80 gpm @ 24 feet TDH with a discharge diameter of 4 inches.

F. DEWATERING

A medium duty belt press will be housed in the mechanical building to dewater the sludge from the aerobic digester. The belt press will meet the following requirements:

Design Flow	800,000 gpd
Sludge Production Rate	2,216 lb/d or 10,621 gpd
<u>Component</u>	<u>Requirement</u>
Sludge feed rate	300 - 350 lbs/d.s./hr
Sludge feed concentration	1-2%
Polymer dosage	8-12 lbs polymer/ton d.s.
Capture	90-93%
Cake	Minimum 14%- 19%
Belt Size	1.5 Meter

A polymer dosing system consisting of an emulsion polymer metering pump, capable of pumping 0-1 gallons of emulsion per hour and related tanks will be provided for conditioning the sludge.

A concrete storage area, 37 feet. X 30 feet. X 4 feet. (4,440 cf) will provide up to 694 days of storage volume at a sludge production of 400 lbs/day of 18 % solids concentration.

G. POST EQUALIZATION BASIN

An 80 feet long X 30 feet width X 15 feet depth reinforced concrete basin will be provided to equalize the wastewater flow prior to the ultraviolet disinfection unit. Normal detention time will be 128 minutes based on the basin volume and design decant rate.

H. ULTRAVIOLET DISINFECTION SYSTEM

The UV disinfection system will provide a minimum dosage of 50,000 microwatt seconds per square centimeter at peak flow at 70 percent lamp output after 7,500 hours of UV lamp operation with a minimum UV transmittance of 65 % at 253.7 nm through 1 cm path as compared to Type I deionized water with less than 30 mg/l of total suspended solids.

- One channel
- Design velocity: 0.5 feet per second (@ 2.0 MGD)
- Detention time: 13 seconds
- 28 lamps per module
- Five modules per channel with room for one future module
- Maximum effluent height - 62 inches
- jib crane and hoist provided
- chemical cleaning solution tank provided

I. CHEMICAL FEED EQUIPMENT

A chemical feed system will be installed to feed magnesium sulfate should alkalinity adjustment become necessary. The chemical feed system will consist of a 200 gallon graduated polyethylene tank with removable lid and a positive displacement metering pump with a maximum feed rate of 3.6 gal per hour.

J. SEPTAGE ACCEPTANCE PLANT

A septage acceptance plant with cylindrical fine screen for removing floating particles or fibrous material will be located in the mechanical building.

K. CASCADE AERATION

Cascade aeration consists of four steps 4 feet wide and 2 feet in height. A sharp crested weir will be installed at the top of each step.

L. OUTFALL

The outfall will consist of approximately 1400 feet of 16-inch diameter ductile iron pipe following a route along Station Creek to a point 100 feet south of the confluence of Station Creek and Powell River. A 17 feet long of 16-inch diameter perforated ductile iron pipe will protrude out into the Powell River below the water surface of the Powell River.

JCB/bhc

ATTACHMENT 2
Discharge Location

ATTACHMENT 3
Permit Limitations Development

REGIONAL MODELING SYSTEM

VERSION 3.2

DATA FILE SUMMARY

HE NAME OF THE DATA FILE IS: HICKFLAT.MOD

HE STREAM NAME IS: Powell River
 HE RIVER BASIN IS: Tennessee-Big Sandy River
 HE SECTION NUMBER IS: I
 HE CLASSIFICATION IS: IV

TANDARDS VIOLATED (Y/N) = N
 TANDARDS APPROPRIATE (Y/N) = Y

ISCHARGE WITHIN 3 MILES (Y/N) = N

HE DISCHARGE BEING MODELED IS: Hickory Flats WWTP

ROPOSED LIMITS ARE:
 FLOW = .8 MGD
 BOD5 = 20 MG/L
 TKN = 8 MG/L
 D.O. = 6.5 MG/L

HE NUMBER OF SEGMENTS TO BE MODELED = 1

Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON
 THE GAUGE NAME IS: Powell River at Jonesville
 GAUGE DRAINAGE AREA = 319 SQ.MI.
 GAUGE 7Q10 = 15.51 MGD
 DRAINAGE AREA AT DISCHARGE = 299 SQ.MI.

TREAM A DRY DITCH AT DISCHARGE (Y/N) = N
 NTIDEGRADATION APPLIES (Y/N) = Y

LLOCATION DESIGN TEMPERATURE = 25 °C

SEGMENT INFORMATION

SEGMENT # 1

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = 7 MI

SEGMENT WIDTH = 30 FT
SEGMENT DEPTH = 1.6 FT
SEGMENT VELOCITY = .5 FT/SEC

WATERSHED AREA AT SEGMENT START = 299 SQ.MI.
WATERSHED AREA AT SEGMENT END = 319 SQ.MI.

ELEVATION AT UPSTREAM END = 1285 FT
ELEVATION AT DOWNSTREAM END = 1260 FT

CHANNEL CROSS SECTION IS: WIDE SHALLOW ARC
CHANNEL CHARACTER IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = Y
THE SEGMENT LENGTH IS 50 % POOLS
POOL DEPTH = 1.8 FT
THE SEGMENT LENGTH IS 50 % RIFFLES
RIFFLE DEPTH = 1.4 FT

CHANNEL BOTTOM TYPE = SMALL ROCK
BEDROCK DEPOSITS = NONE
AQUATIC PLANTS = FEW
GAS OBSERVED = NONE
WATER COLORED GREEN (Y/N) = N

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)
-26-1996 11:53:04

REGIONAL MODELING SYSTEM VERSION 3.2

MODEL SIMULATION FOR THE Hickory Flats WWTP DISCHARGE
TO Powell River

THE SIMULATION STARTS AT THE Hickory Flats WWTP DISCHARGE

***** PROPOSED PERMIT LIMITS *****

FLOW = .8 MGD cBOD5 = 20 Mg/L TKN = 8 Mg/L D.O. = 6.5 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.211 Mg/L ****

THE SECTION BEING MODELED IS 1 SEGMENT LONG
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

***** BACKGROUND CONDITIONS *****

THE 7010 STREAM FLOW AT THE DISCHARGE IS 14.53759 MGD
THE DISSOLVED OXYGEN OF THE STREAM IS 7.168 Mg/L
THE BACKGROUND cBODu OF THE STREAM IS 5 Mg/L
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

***** MODEL PARAMETERS *****

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
1	7.00	0.453	2.143	0.300	0.150	0.000	1272.50	25.00	7.964

(The K Rates shown are at 20°C ... the model corrects them for temperature.)

RESPONSE FOR SEGMENT 1

TOTAL STREAMFLOW = 15.3376 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.000	7.133	7.347	1.129
0.100	0.100	7.119	7.310	1.126
0.200	0.200	7.107	7.273	1.123
0.300	0.300	7.094	7.236	1.119
0.400	0.400	7.083	7.199	1.116
0.500	0.500	7.072	7.163	1.113
0.600	0.600	7.061	7.126	1.109
0.700	0.700	7.051	7.090	1.106
0.800	0.800	7.042	7.054	1.103
0.900	0.900	7.033	7.018	1.099
1.000	1.000	7.025	6.983	1.096
1.100	1.100	7.017	6.947	1.093
1.200	1.200	7.009	6.912	1.090
1.300	1.300	7.002	6.877	1.087
1.400	1.400	6.995	6.842	1.083
1.500	1.500	6.989	6.807	1.080
1.600	1.600	6.983	6.773	1.077
1.700	1.700	6.977	6.738	1.074
1.800	1.800	6.972	6.704	1.071
1.900	1.900	6.967	6.670	1.067
2.000	2.000	6.963	6.636	1.064
2.100	2.100	6.959	6.603	1.061
2.200	2.200	6.955	6.569	1.058
2.300	2.300	6.951	6.536	1.055
2.400	2.400	6.948	6.503	1.052
2.500	2.500	6.945	6.470	1.048
2.600	2.600	6.942	6.437	1.045
2.700	2.700	6.939	6.404	1.042
2.800	2.800	6.937	6.372	1.039
2.900	2.900	6.935	6.339	1.036
3.000	3.000	6.933	6.307	1.033
3.100	3.100	6.932	6.275	1.030
3.200	3.200	6.931	6.243	1.027
3.300	3.300	6.930	6.212	1.024
3.400	3.400	6.929	6.180	1.021
3.500	3.500	6.928	6.149	1.018
3.600	3.600	6.927	6.117	1.015
3.700	3.700	6.927	6.087	1.012
3.800	3.800	6.927	6.056	1.009
3.900	3.900	6.927	6.025	1.006
4.000	4.000	6.927	5.994	1.003
4.100	4.100	6.927	5.964	1.000
4.200	4.200	6.928	5.934	0.997
4.300	4.300	6.929	5.904	0.994
4.400	4.400	6.929	5.873	0.991
4.500	4.500	6.930	5.844	0.988
4.600	4.600	6.931	5.814	0.985
4.700	4.700	6.932	5.785	0.982
4.800	4.800	6.934	5.755	0.979
4.900	4.900	6.935	5.726	0.976
5.000	5.000	6.937	5.697	0.974
5.100	5.100	6.938	5.668	0.971
5.200	5.200	6.940	5.639	0.968
5.300	5.300	6.942	5.610	0.965

SAG

5.400	5.400	6.944	5.582	0.962
5.500	5.500	6.946	5.554	0.959
5.600	5.600	6.948	5.525	0.956
5.700	5.700	6.950	5.497	0.953
5.800	5.800	6.952	5.470	0.951
5.900	5.900	6.954	5.442	0.948
6.000	6.000	6.957	5.414	0.945
6.100	6.100	6.959	5.387	0.942
6.200	6.200	6.962	5.359	0.939
6.300	6.300	6.964	5.332	0.937
6.400	6.400	6.967	5.305	0.934
6.500	6.500	6.970	5.278	0.931
6.600	6.600	6.972	5.251	0.928
6.700	6.700	6.975	5.225	0.925
6.800	6.800	6.978	5.198	0.923
6.900	6.900	6.981	5.172	0.920
7.000	7.000	6.984	5.146	0.917

 REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)
 7-26-1996 11:43:53
 DATA FILE = HICKFLAT.MOD

D.O. Drop = 7.168
 -6.921
 0.241 OK

REGIONAL MODELING SYSTEM VERSION 3.2

EL SIMULATION FOR THE Hickory Flats WWTP DISCHARGE

0 Powell River

SONAL LIMITS RUN - - WET SEASON PERIOD: December TO May

SIMULATION STARTS AT THE Hickory Flats WWTP DISCHARGE

***** PROPOSED PERMIT LIMITS *****

N = .8 MGD cBOD5 = 25 Mg/L TKN = 20 Mg/L D.O. = 6.5 Mg/L

* THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.427 Mg/L ****

SECTION BEING MODELED IS 1 SEGMENT LONG
JLTS WILL BE GIVEN AT 0.1 MILE INTERVALS

***** BACKGROUND CONDITIONS *****

WET SEASON 7Q10 STREAM FLOW
THE DISCHARGE IS 30.27492 MGD
DISSOLVED OXYGEN OF THE STREAM IS 8.651 Mg/L
BACKGROUND cBODu OF THE STREAM IS 5 Mg/L
BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

***** MODEL PARAMETERS *****

MG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
---	---	---	---	---	---	---	---	---	---
	7.00	0.639	2.143	0.300	0.150	0.000	1272.50	15.00	9.613

: K Rates shown are at 20°C ... the model corrects them for temperature.)

***** RESPONSE FOR SEGMENT 1 *****

TOTAL STREAMFLOW = 31.0749 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.000	8.596	6.480	1.895
0.100	0.100	8.598	6.465	1.893
0.200	0.200	8.600	6.451	1.891
0.300	0.300	8.602	6.436	1.890
0.400	0.400	8.604	6.421	1.888
0.500	0.500	8.606	6.407	1.886
0.600	0.600	8.607	6.392	1.884
0.700	0.700	8.609	6.378	1.882
0.800	0.800	8.611	6.363	1.881
0.900	0.900	8.613	6.349	1.879
1.000	1.000	8.615	6.334	1.877
1.100	1.100	8.617	6.320	1.875
1.200	1.200	8.619	6.305	1.873
1.300	1.300	8.621	6.291	1.872
1.400	1.400	8.623	6.277	1.870
1.500	1.500	8.625	6.262	1.868
1.600	1.600	8.626	6.248	1.866
1.700	1.700	8.628	6.234	1.864
1.800	1.800	8.630	6.220	1.863
1.900	1.900	8.632	6.205	1.861
2.000	2.000	8.634	6.191	1.859
2.100	2.100	8.636	6.177	1.857
2.200	2.200	8.638	6.163	1.855
2.300	2.300	8.640	6.149	1.854
2.400	2.400	8.642	6.135	1.852
2.500	2.500	8.644	6.121	1.850
2.600	2.600	8.645	6.107	1.848
2.700	2.700	8.647	6.093	1.846
2.800	2.800	8.649	6.079	1.845
2.900	2.900	8.651	6.066	1.843
3.000	3.000	8.651	6.052	1.841
3.100	3.100	8.651	6.038	1.839
3.200	3.200	8.651	6.024	1.837
3.300	3.300	8.651	6.010	1.836
3.400	3.400	8.651	5.997	1.834
3.500	3.500	8.651	5.983	1.832
3.600	3.600	8.651	5.970	1.830
3.700	3.700	8.651	5.956	1.828
3.800	3.800	8.651	5.942	1.827
3.900	3.900	8.651	5.929	1.825
4.000	4.000	8.651	5.915	1.823
4.100	4.100	8.651	5.902	1.821
4.200	4.200	8.651	5.888	1.819
4.300	4.300	8.651	5.875	1.818
4.400	4.400	8.651	5.862	1.816
4.500	4.500	8.651	5.848	1.814
4.600	4.600	8.651	5.835	1.812
4.700	4.700	8.651	5.822	1.810
4.800	4.800	8.651	5.808	1.809
4.900	4.900	8.651	5.795	1.807
5.000	5.000	8.651	5.782	1.805
5.100	5.100	8.651	5.769	1.803
5.200	5.200	8.651	5.756	1.801
5.300	5.300	8.651	5.742	1.800

Mixing Zone Predictions for Hickory Flats WWTP

Effluent Flow = 0.8 MGD
Stream 7Q10 = 15.4 MGD
Stream 1Q10 = 14.5 MGD
Stream slope = .000676 ft/ft
Stream width = 30 ft
Bottom scale = 2
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = 1.4394 ft
Length = 820.6 ft
Velocity = .5807ft/sec
Residence Time = .0164days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = 1.3891 ft
Length = 846.99 ft
Velocity = .5683ft/sec
Residence Time = .414 hours

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.

Calculat: 1 of Total Ammonia Nitroge Limits

Facility Name: Hickory Flats WWTP
VPDES Permit No: VA00

NH₃-N limits are derived from the ammonia tables or formulas in the Water Quality Standards. Human Health standards are not applicable for ammonia.

Based on Tables 1B & 2B of the Water Quality Standards, Total Ammonia standards were calculated for a Summer Tier and a Winter Tier.

Summer pH = 8 Dry Season Temperature = 25° C
Winter pH = 8 Wet Season Temperature = 10° C

The calculated ammonia nitrogen water quality standards (WQS) are:

Acute Ao_d = WQS_{dry} = (6.8 x 0.822)mg/l = 5.59 mg/l
Acute Ao_w = WQS_{wet} = (7.1 x 0.822)mg/l = 5.84 mg/l

Chronic Co_d = WQS_{dry} = (1.10 x 0.822)mg/l = 0.90 mg/l
Chronic Co_w = WQS_{wet} = (1.62 x 0.822)mg/l = 1.33 mg/l

Q_e = Design Flow of STP (MGD) = 0.8

Q_s = Critical Flow (1Q10 for Acute,
7Q10 for Chronic)

Q_{s-1} = 1Q10 Flow (MGD) = 13.9

Q_{s-1w} = 1Q10 High Flow (MGD) = 44.9

Q_{s-7} = 7Q10 Flow (MGD) = 14.5

Q_{s-7w} = 7Q10 High Flow (MGD) = 30.3

Calculation of Total Ammonia Nitrogen Limits (continued)

The antidegradation baseline is calculated as follows (for new or expanding discharges):

$$\text{Acute Baseline (dry)} = AB_d = .25(Ao_d - \text{background}) + \text{background}$$

$$AB_d = [.25(5.59 - 0) + 0] \text{ mg/l}$$

$$AB_d = 1.4 \text{ mg/l}$$

$$\text{Acute Baseline (wet)} = AB_w = .25(Ao_w - \text{background}) + \text{background}$$

$$AB_w = [.25(5.84 - 0) + 0] \text{ mg/l}$$

$$AB_w = 1.46 \text{ mg/l}$$

$$\text{Chronic Baseline (dry)} = CB_d = .25(Co_d - \text{background}) + \text{background}$$

$$CB_d = [.25(0.9 - 0) + 0] \text{ mg/l}$$

$$CB_d = 0.23 \text{ mg/l}$$

$$\text{Chronic Baseline (wet)} = CB_w = .25(Co_w - \text{background}) + \text{background}$$

$$CB_w = [.25(1.33 - 0) + 0] \text{ mg/l}$$

$$CB_w = 0.33 \text{ mg/l}$$

Calculation of Total Ammonia Nitrogen Limits (continued)

The antidegradation wasteload allocations (AWLAs) are calculated as follows, assuming a background concentration of 0:

$$AWLA_{ad} = \text{acute dry AWAL} = \frac{[AB_d (Qs-1_{dry} + Qe) - Qs-1_{dry}(\text{background})]}{Qe}$$

$$AWLA_{ad} = [(1.4)(13.9 + 0.8) - 0]/0.8$$

$$AWLA_{ad} = 25.7 \text{ mg/l}$$

$$AWLA_{aw} = \text{acute wet AWAL} = \frac{[AB_w (Qs-1_{wet} + Qe) - Qs-1_{wet}(\text{background})]}{Qe}$$

$$AWLA_{aw} = [(1.46)(44.9 + 0.8) - 0]/0.8$$

$$AWLA_{aw} = 83.4 \text{ mg/l}$$

$$AWLA_{cd} = \text{chronic dry AWAL} = \frac{[CB_d (Qs-7_{dry} + Qe) - Qs-7_{dry}(\text{background})]}{Qe}$$

$$AWLA_{cd} = [(0.23)(14.5 + 0.8) - 0]/0.8$$

$$AWLA_{cd} = 4.4 \text{ mg/l}$$

$$AWLA_{cw} = \text{chronic wet AWAL} = \frac{[CB_w (Qs-7_{wet} + Qe) - Qs-7_{wet}(\text{background})]}{Qe}$$

$$AWLA_{cw} = [(0.33)(30.3 + 0.8) - 0]/0.8$$

$$AWLA_{cw} = 12.8 \text{ mg/l}$$

analysis of the Hickory Flats WWTP effluent data for Ammonia Nitrogen

The statistics for Ammonia Nitrogen are:

Number of values	=	1
Quantification level	=	.2
Number < quantification	=	0
Expected value	=	9
Variance	=	29.16001
C.V.	=	.6
97th percentile	=	21.90076
Statistics used	=	Reasonable potential assumptions - Type 2 data

The WLAs for Ammonia Nitrogen are:

Acute WLA	=	25.7
Chronic WLA	=	4.4
Human Health WLA	=	----

The limits are based on chronic toxicity and 1 samples/month.

Maximum daily limit	=	6.435329
Average monthly limit	=	6.435329

is recommended that only the maximum daily limit be used.

DATA

9

analysis of the Hickory Flats WWTP effluent data for Ammonia Nitrogen

The statistics for Ammonia Nitrogen are:

Number of values	=	1
Quantification level	=	.2
Number < quantification	=	0
Expected value	=	9
Variance	=	29.16001
C.V.	=	.6
97th percentile	=	21.90076
Statistics used	=	Reasonable potential assumptions - Type 2 data

The WLAs for Ammonia Nitrogen are:

Acute WLA	=	83.4
Chronic WLA	=	12.8
Human Health WLA	=	----

The limits are based on chronic toxicity and 1 samples/month.

Maximum daily limit	=	18.72096
Average monthly limit	=	18.72096

is recommended that only the maximum daily limit be used.

DATA

9

ATTACHMENT 4
303 (d) Fact Sheets
TMDL

Wyatt, Frederick (DEQ)

From: Chapman, Martha (DEQ)
Sent: Wednesday, August 24, 2016 2:47 PM
To: Wyatt, Frederick (DEQ)
Subject: Powell River Info for Hickory Flats
Attachments: VAS-P21R_POW02A00.pdf

Fred,

Hickory Flats discharges to VAS-P21R_POW02A00². This segment is included in the 'E. coli and Phased Benthic Total Maximum Daily Load Development for Powell River and Tributaries (North Fork Powell River, South Fork Powell River, Butcher Fork, and Wallen Creek)'. The document was approved by EPA on 03/10/2011 but hasn't been approved by the SWCB.

The specific segment VAS-P21R_POW02A00² was initially listed as impaired for bacteria. It was delisted in 2012, but was listed as impaired for aquatic life in 2012. The factsheet is attached.

If you have any questions, just let me know.

Thanks,

Martha

Martha Chapman
TMDL Coordinator
Department of Environmental Quality
Southwest Regional Office
355-A Deadmore Street
Abingdon, VA 24210
(276) 676-4845
martha.chapman@deq.virginia.gov
<http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL.aspx>



2014 Impaired Waters

SWRO Categories 4 and 5

Cause Group Code: **P21R-03-BEN** **Powell River**

Location: This segment includes the mainstem of the Powell River from the confluence of North Fork Powell River downstream to the Town Creek confluence.

City / County: Lee Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate
Bioassessments/ 4A

Probabilistic biological monitoring station 6BPOW156.57 was impaired based on VSCI scores of 50 and 57.

Assessment Unit / Water Name / Description	Cause Category / Name	Nested	Cycle First Listed	TMDL Schedule or EPA Approval	Size
VAS-P21R_POW02A02 / Powell River / Powell River from the confluence of Station Creek downstream to the confluence of Town Creek south of Jonesville, WQS Section 1.	4A Benthic-Macroinvertebrate Bioassessments		2012	3/10/2011	12.74
VAS-P21R_POW03A02 / Powell River / Mainstem Powell River from the confluence of North Fork Powell River west of Woodway downstream to Station Creek confluence near Poteet Ferry Bridge, WQS Section 1.	4A Benthic-Macroinvertebrate Bioassessments		2008	3/10/2011	6.46
Powell River			Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life					
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:					19.20

Sources:

Agriculture

Coal Mining

Impacts from Abandoned
Mine Lands (Inactive)

Unrestricted Cattle Access

ATTACHMENT 5

T & E Species



VPDES PERMITS

Threatened and Endangered Species Coordination

To:

- (X) DGIF, Environmental Review Coordinator
- () DCR
- (X) USFWS, T/E Review Coordinator

From: Fred M. Wyatt

DEQ, Southwest Regional Office
355-A Deadmore Street
Abingdon, VA 24210
frederick.wyatt@deq.virginia.gov

Date Sent: 09/06/2016

Permit Number: VA0089397

Facility Name: Hickory Flats Wastewater Treatment Plant

**Contact: Lee County Public Service Authority
Tracy Puckett, Director**

Phone: (276) 346-7775

Address: P.O. Box 830, Jonesville, VA 24263

**Location: 229 Treatment Plant Road,
Jonesville, VA 24263**

USGS Quadrangle: Ben Hur, VA

Latitude/Longitude: 36°41'50"/83°01'04"

Receiving Stream: Powell River

**Receiving Stream Flow Statistics used for
Permit: 1Q10 Flow = 15.5 MGD
7Q10 Flow = 16.8 MGD
30Q10 Flow = 20 MGD**

Topo Map Attached

**Effluent Characteristics and Max Daily Flow:
See attached draft permit and fact sheet.**

**Species Search Results: See attached database
report and map.**

DGIF email: ProjectReview@dgif.virginia.gov to Ernie Aschenbach attention.

USFWS email: susan_lingenfelter@fws.gov

DCR: Natural Heritage Data Explorer (NHDE) has the needed information.

Threatened and Endangered Waters

36,41,50.0 -83,01,04.0
is the Search Point

Show Position Rings

☒ Yes ☐ No
1 mile and 1/4 mile at the Search Point

Show Search Area

☒ Yes ☐ No
2 Search distance miles radius

Search Point is at map center

Base Map Choices

Topography

Map Overlay Choices

Current List: Position, Search, TEWaters

Map Overlay Legend

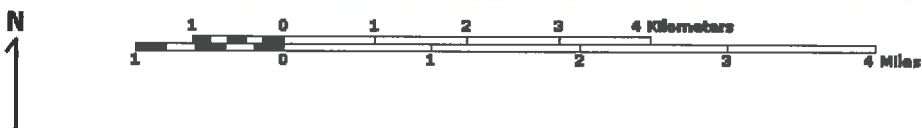
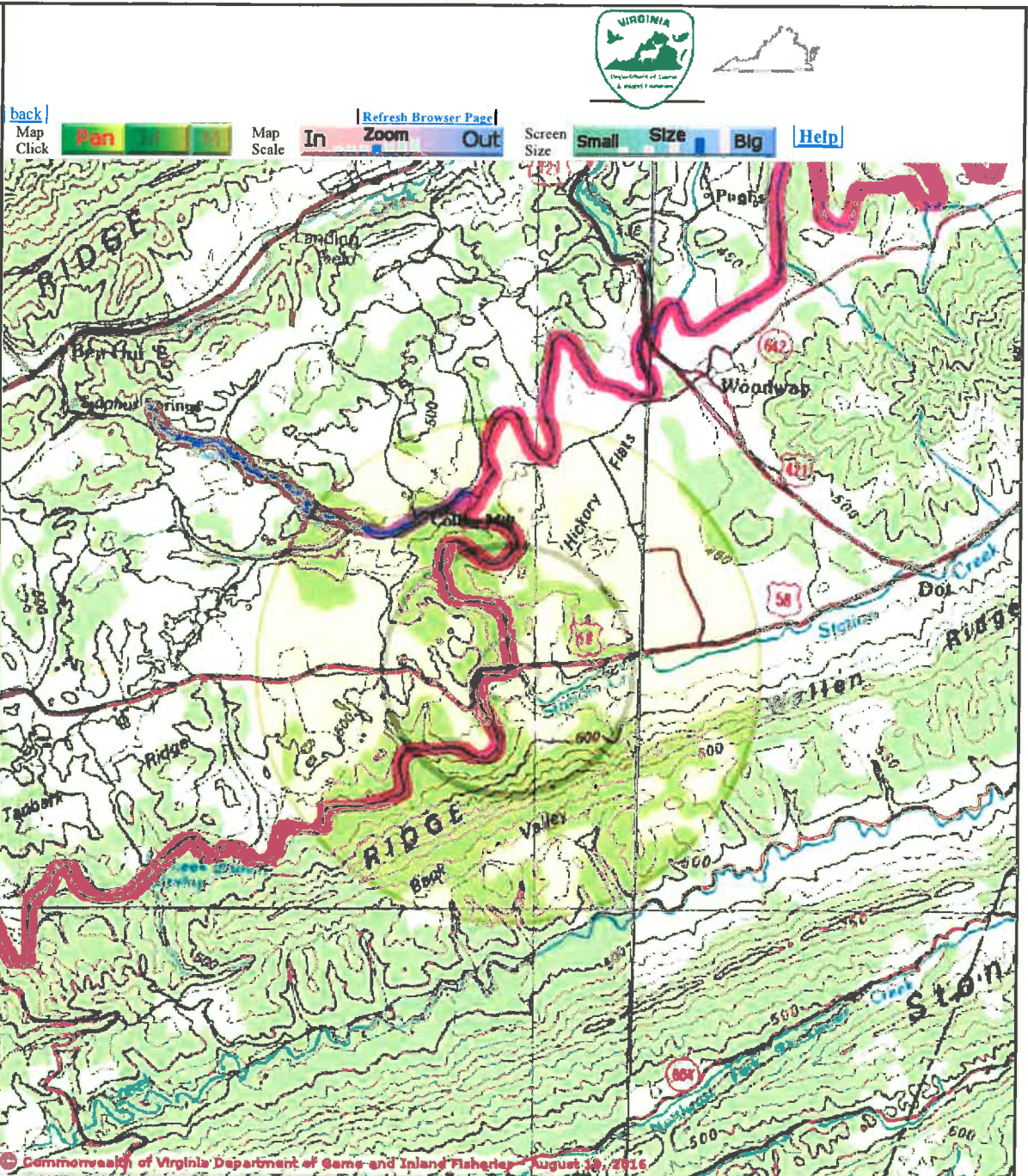
T & E Waters

Federal

State

Position Rings
1 mile and 1/4 mile at the Search Point

2 mile radius
Search Area



Point of Search 36,41,50.0 -83,01,04.0

Map Location 36,41,50.0 -83,01,04.0

Select Coordinate System: ☒ Degrees, Minutes, Seconds Latitude - Longitude

☐ Decimal Degrees Latitude - Longitude

☐ Meters UTM NAD83 East North Zone

☐ Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft.terraservertusa.com for details)

Map projection is UTM Zone 17 NAD 1983 with left 313348 and top 4069582. Pixel size is 16 meters. Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 800 columns by 800 rows for a total of 640000 pixels. The map display represents 12800 meters east to west by 12800 meters north to south for a total of 163.8 square kilometers. The map display represents 42001 feet east to west by 42001 feet north to south for a total of 63.2 square miles.

VaFWIS Initial Project Assessment Report Compiled on 8/19/2016, 3:00:36 PM[Help](#)Known or likely to occur within a 2 mile radius around point 36,41,50.0 -83,01,04.0
in 105 Lee County, VA[View Map of
Site Location](#)533 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 64) (64 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
050023	FESE	Ia	Bat, Indiana	Myotis sodalis		BOVA
060169	FESE	Ia	Bean (pearlymussel), Cumberland	Villosa trabalis		BOVA
060030	FESE	Ia	Combshell, Cumberlandian	Epioblasma brevidens	Yes	BOVA,TEWaters,Habitat
060023	FESE	Ia	Fanshell	Cyprogenia stegaria		BOVA
060125	FESE	Ia	Monkeyface (pearlymussel), Appalachian	Quadrula sparsa	Yes	BOVA,TEWaters,Habitat
060123	FESE	Ia	Monkeyface (pearlymussel), Cumberland	Quadrula intermedia	Yes	BOVA,TEWaters,Habitat
060031	FESE	Ia	Mussel, oyster	Epioblasma capsaeformis	Yes	BOVA,TEWaters,Habitat
060035	FESE	Ia	Mussel, snuffbox	Epioblasma triquetra		BOVA,Habitat
060020	FESE	Ia	Pearlymussel, birdwing	Lemiox rimosus	Yes	BOVA,TEWaters,Habitat
060024	FESE	Ia	Pearlymussel, dromedary	Dromus dromas	Yes	BOVA,TEWaters,Habitat
060051	FESE	Ia	Pigtoe, finereyed	Fusconaia cuneolus	Yes	BOVA,TEWaters,Habitat
060052	FESE	Ia	Pigtoe, shiny	Fusconaia cor	Yes	BOVA,TEWaters,Habitat
060122	FESE	Ia	Rabbitsfoot, rough	Quadrula cylindrica strigillata	Yes	BOVA,TEWaters,Habitat,SppObs
060082	FESE	Ib	Pearlymussel, cracking	Hemistena lata	Yes	BOVA,TEWaters,Habitat
060094	FESE	Ic	Pearlymussel, littlewing	Pegias fabula		BOVA
050021	FESE	IIa	Bat, gray	Myotis grisescens	Yes	BOVA,SppObs
060146	FESE	IIa	Bean, Rayed	Villosa fabalis		BOVA
060121	FESE	IIa	Kidneyshell, fluted	Ptychobranhus subtentum		BOVA,Habitat
060110	FESE	IIa	Mussel, sheepnose	Plethobasus cyphus		BOVA,Habitat
060083	FESE	IIa	Pearlymussel, slabside	Lexingtonia dolabelloides	Yes	BOVA,TEWaters,Habitat
070048	FESE	IIIc	Isopod, Lee County Cave	Lirceus usdagalun		BOVA
010331	FTST	Ia	Madtom, yellowfin	Noturus flavipinnis	Yes	BOVA,TEWaters,Habitat,SppObs
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
010330	FTST	Ib	Chub, spotfin	Erimonax monachus		BOVA
010111	FTST	Ic	Chub, slender	Erimystax cahni		BOVA
010450	FTST		Dace, Blackside	Chrosomus cumberlandensis		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus lucifugus		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060170	SE	Ia	Ghostsnailed, thankless	Holsingeria unthinksensis		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA
060080	SE	IIa	Heelsplitter, Tennessee	Lasmigona holstonia	Yes	BOVA,Habitat,SppObs
060055	SE	IIc	Elimia, spider	Elimia arachnoidea	Yes	BOVA,TEWaters,Habitat,SppObs
060027	SE	IIIa	Elephantear	Elliptio crassidens	Yes	BOVA,TEWaters,Habitat,SppObs
060168	SE	IIIb	Deertoe	Truncilla truncata	Yes	BOVA,TEWaters,Habitat
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
060069	ST	IIIa	Riversnail, spiny	Io fluviatilis	Yes	BOVA,TEWaters,Habitat,SppObs
060086	ST	IIIa	Sandshell, black	Ligumia recta	Yes	BOVA,TEWaters,Habitat,SppObs
060140	ST	IIIb	Pistolgrip	Tritogonia verrucosa		BOVA

010335	ST	IIIc	Shiner, steelcolor	Cyprinella whipplei	Yes	BOVA,SppObs
060124	ST	IVb	Pimpleback	Quadrula pustulosa pustulosa	Yes	BOVA,TEWaters,Habitat
010362	ST	IVc	Darter, western sand	Ammocrypta clara	Yes	BOVA,TEWaters,Habitat
010334	ST	IVc	Paddlefish	Polyodon spathula		BOVA,Habitat
010076	ST	IVc	Shiner, emerald	Notropis atherinoides		BOVA,Habitat
060163	ST	IVc	Papershell, fragile	Leptodea fragilis	Yes	BOVA,TEWaters,Habitat
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
020020	CC	Ia	Hellbender, eastern	Cryptobranchus alleganiensis alleganiensis		BOVA
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
050024		Ia	Myotis, eastern small-footed	Myotis leibii		BOVA
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA
070139		Ic	Amphipod, Cumberland Gap Cave	Bactrurus angulus		BOVA
010341		IIa	Logperch, blotchside	Percina burtoni		BOVA
020011		IIa	Frog, mountain chorus	Pseudacris brachyphona		BOVA,Habitat
040052		IIa	Duck, American black	Anas rubripes		BOVA
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA
040140		IIa	Woodcock, American	Scolopax minor		BOVA
060050		IIa	Pigtoe, Tennessee	Fusconaia barnesiana	Yes	BOVA,Habitat,SppObs
070146		IIa	Crayfish, Spiny Scale	Cambarus jezerinaci		BOVA
020030		IIb	Salamander, green	Aneides aeneus		BOVA
040203		IIb	Cuckoo, black-billed	Coccyzus erythrophthalmus		BOVA
010075		IIc	Shiner, popeye	Notropis ariommus	Yes	BOVA,Habitat,SppObs
020081		IIc	Salamander, southern zigzag	Plethodon ventralis		BOVA
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		BOVA
060004		IIc	Elktoe	Alasmodonta marginata		BOVA

To view All 533 species [View 533](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.; b -

On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c -

No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

(Testing) Bat Bachelor Colonies, Bat Maternity Colonies, and Bat Hibernacula

[View Map of all these Colonies and Hibernacula](#)

ID	Name	Type	Notes	View Map
308	Litton No. 1	Summer	MYGR Summer-T&E	Yes

Anadromous Fish Use Streams

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (2 Reaches)

[View Map of All Threatened and Endangered Waters](#)

Stream Name	Highest TE [*]	T&E Waters Species						View Map
		BOVA Code, Status [*] , Tier ^{**} , Common & Scientific Name						
Powell River (06010206)	FESE	010331	FTST	Ia	Madtom, yellowfin	Noturus flavipinnis	Yes	
		010362	ST	IVc	Darter, western sand	Ammocrypta clara		
		060020	FESE	Ia	Pearlymussel, birdwing	Lemiox rimosus		
		060024	FESE	Ia	Pearlymussel, dromedary	Dromus dromas		
		060027	SE	IIIa	Elephantear	Elliptio crassidens		
		060030	FESE	Ia	Combshell, Cumberlandian	Epioblasma brevidens		
		060031	FESE	Ia	Mussel, oyster	Epioblasma capsaeformis		
		060051	FESE	Ia	Pigtoe, finerayed	Fusconaia cuneolus		
		060052	FESE	Ia	Pigtoe, shiny	Fusconaia cor		
		060069	ST	IIIa	Riversnail, spiny	Io fluviialis		
		060082	FESE	Ib	Pearlymussel, cracking	Hemistena lata		
		060083	FESE	IIa	Pearlymussel, slabside	Lexingtonia dolabelloides		
		060086	ST	IIIa	Sandshell, black	Ligumia recta		
		060122	FESE	Ia	Rabbitsfoot, rough	Quadrula cylindrica strigillata		
		060123	FESE	Ia	Monkeyface (pearlymussel), Cumberland	Quadrula intermedia		
		060124	ST	IVb	Pimpleback	Quadrula pustulosa pustulosa		
		060125	FESE	Ia	Monkeyface (pearlymussel), Appalachian	Quadrula sparsa		
		060163	ST	IVc	Papershell, fragile	Leptodea fragilis		
		060168	SE	IIIb	Deertoe	Truncilla truncata		
Shafer Creek (06010206)	SE	060055	SE	IIc	Elimia, spider	Elimia arachnoidea	Yes	

Managed Trout Streams (1 records) (Click on Stream Name to view complete reach history)

[View Map of All Trout Stream Surveys](#)

Reach ID	Stream Name	Class	Brook Trout	Brown Trout	Rainbow Trout	View Map
02SHF-01	Shafer Creek	Stockable				Yes

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (6 Reaches)

[View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species](#)

Stream Name	Tier Species						View Map
	Highest TE *	BOVA Code, Status *, Tier **, Common & Scientific Name					
Powell River (60102061)	FESE	010075		IIC	Shiner, popeye	Notropis ariommus	Yes
		010076	ST	IVc	Shiner, emerald	Notropis atherinoides	
		010331	FTST	Ia	Madtom, yellowfin	Noturus flavipinnis	
		010334	ST	IVc	Paddlefish	Polyodon spathula	
		010362	ST	IVc	Darter, western sand	Ammocrypta clara	
		060020	FESE	Ia	Pearlymussel, birdwing	Lemiox rimosus	
		060024	FESE	Ia	Pearlymussel, dromedary	Dromus dromas	
		060027	SE	IIIa	Elephantear	Elliptio crassidens	
		060030	FESE	Ia	Combshell, Cumberlandian	Epioblasma brevidens	
		060031	FESE	Ia	Mussel, oyster	Epioblasma capsaeformis	
		060035	FESE	Ia	Mussel, snuffbox	Epioblasma triquetra	
		060050		IIa	Pigtoe, Tennessee	Fusconaia barnesiana	
		060051	FESE	Ia	Pigtoe, finerayed	Fusconaia cuneolus	
		060052	FESE	Ia	Pigtoe, shiny	Fusconaia cor	
		060069	ST	IIIa	Riversnail, spiny	Io fluvialis	
		060082	FESE	Ib	Pearlymussel, cracking	Hemistena lata	
		060083	FESE	IIa	Pearlymussel, slabside	Lexingtonia dolabelloides	
		060086	ST	IIIa	Sandshell, black	Ligumia recta	
		060110	FESE	IIa	Mussel, sheepnose	Plethobasus cyphus	
		060121	FESE	IIa	Kidneyshell, fluted	Ptychobranhus subtentum	
		060122	FESE	Ia	Rabbitsfoot, rough	Quadrula cylindrica strigillata	
		060123	FESE	Ia	Monkeyface (pearlymussel), Cumberland	Quadrula intermedia	
		060124	ST	IVb	Pimpleback	Quadrula pustulosa pustulosa	
		060125	FESE	Ia	Monkeyface (pearlymussel), Appalachian	Quadrula sparsa	
		060163	ST	IVc	Papershell, fragile	Leptodea fragilis	
		060168	SE	IIIb	Deertoe	Truncilla truncata	
Shafer Creek (60102061)	FSSE	060050		IIa	Pigtoe, Tennessee	Fusconaia barnesiana	Yes
		060055	SE	IIC	Elimia, spider	Elimia arachnoidea	
Station Creek (60102061)	FSSE	060050		IIa	Pigtoe, Tennessee	Fusconaia barnesiana	Yes
		060055	SE	IIC	Elimia, spider	Elimia arachnoidea	
Wallen Creek (60102061)	FTSE	010331	FTST	Ia	Madtom, yellowfin	Noturus flavipinnis	Yes
		060050		IIa	Pigtoe, Tennessee	Fusconaia barnesiana	
		060055	SE	IIC	Elimia, spider	Elimia arachnoidea	
		060080	SE	IIa	Heelsplitter, Tennessee	Lasmigona holstonia	

		060083	FESE	IIa	Pearlymussel, slabside	Lexingtonia dolabelloides	
		060121	FESE	IIa	Kidneyshell, fluted	Ptychobranhus subtentum	
(60102061)	SE	060055	SE	IIc	Elimia, spider	Elimia arachnoidea	Yes
Shafer Creek (60102061)	SE	060055	SE	IIc	Elimia, spider	Elimia arachnoidea	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
020011		IIa	Frog, mountain chorus	Pseudacris brachyphona	Yes

Public Holdings:

N/A

<p>Compiled on 8/19/2016, 3:00 36 PM 1764677.0 report=IPA searchType= R dist= 3218 poi= 36.41,50.0 -83.01,04.0</p> <p>PixelSize=64; Anadromous=0.015384; BECAR=0.013881; Bats=0.053288; Buffer=0.100488; County=0.093708; Impediments=0.013664; Init=0.164064; PublicLands=0.017427; SppObs=0.245232; TEWaters=0.037286; TierReaches=0.066257; TierTerrestrial=0.088633; Total=0.989582; Tracking_BOVA=0.159919; Trout=0.027194</p>

Wyatt, Frederick (DEQ)

From: vanhde@naturereserve.org
Sent: Tuesday, August 23, 2016 9:14 AM
To: Wyatt, Frederick (DEQ)
Subject: Hickory Flats Wastewater Treatment Plant has completed initial review

Dear Clairise R Shaheen,

An initial review of your project, entitled 'Hickory Flats Wastewater Treatment Plant', has been completed. The resulting report can be found [here](#). To view the project page, shapefile and any attachments, click [here](#). If natural heritage resources are documented or predicted within the search radius, DCR will provide additional comments via email within thirty calendar days or within 5 business days if priority service was selected. If no natural heritage resources are documented or predicted within the search radius, no further coordination is needed with this office. The report can be saved and/or printed for your files.

Thank you for submitting this project for review.

DCR-VA Natural Heritage Program



Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Web Project ID: WEB0000005668

Client Project Number: VA0089397

PROJECT INFORMATION

TITLE: Hickory Flats Wastewater Treatment Plant

DESCRIPTION: Reissuance of VPDES permit for existing discharge for 0.8 MGD WWTP

EXISTING SITE CONDITIONS: Existing discharge to Powell River at river mile 6BPOW150.98 with estimated complete mix at 850 feet at low flow

QUADRANGLES: Ben Hur

COUNTIES: Lee

Latitude/Longitude (DMS): 36°41'49.4776"N / 83°1'7.7465"W

Acreage: 1 acres

Comments: No proposed expansion or upgrade is planned for this reissuance. Limits based on the following flow frequencies: 1Q10:

Stream Flow : 15.5 MGD 7Q10 Stream Flow: 16.8 MGD 30Q10 Stream Flow: 20 MGD

REQUESTOR INFORMATION

Priority: N

Tier Level: Tier II

Tax ID:

Contact Name: Fred Wyatt

Company Name: Department of Environmental Quality

Address: 355-A Deadmore Street

City: Abingdon

State: VA

Zip: 24210

Phone: 276-676-4810

Fax: 276-676-4899

Email: frederick.wyatt@deq.virginia.gov

Conservation Site	Site Type	Brank	Acreage	Listed Species Presence
LITTON POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE SCU TRITT	GLNHR	NA	0	SL
	GLNHR	NA	0	NL
	Conservation Site	B2	1238	FL
	SCU	B2	218	FL
	Conservation Site	B4	332	FL

Natural Heritage Screening Features within Search Radius

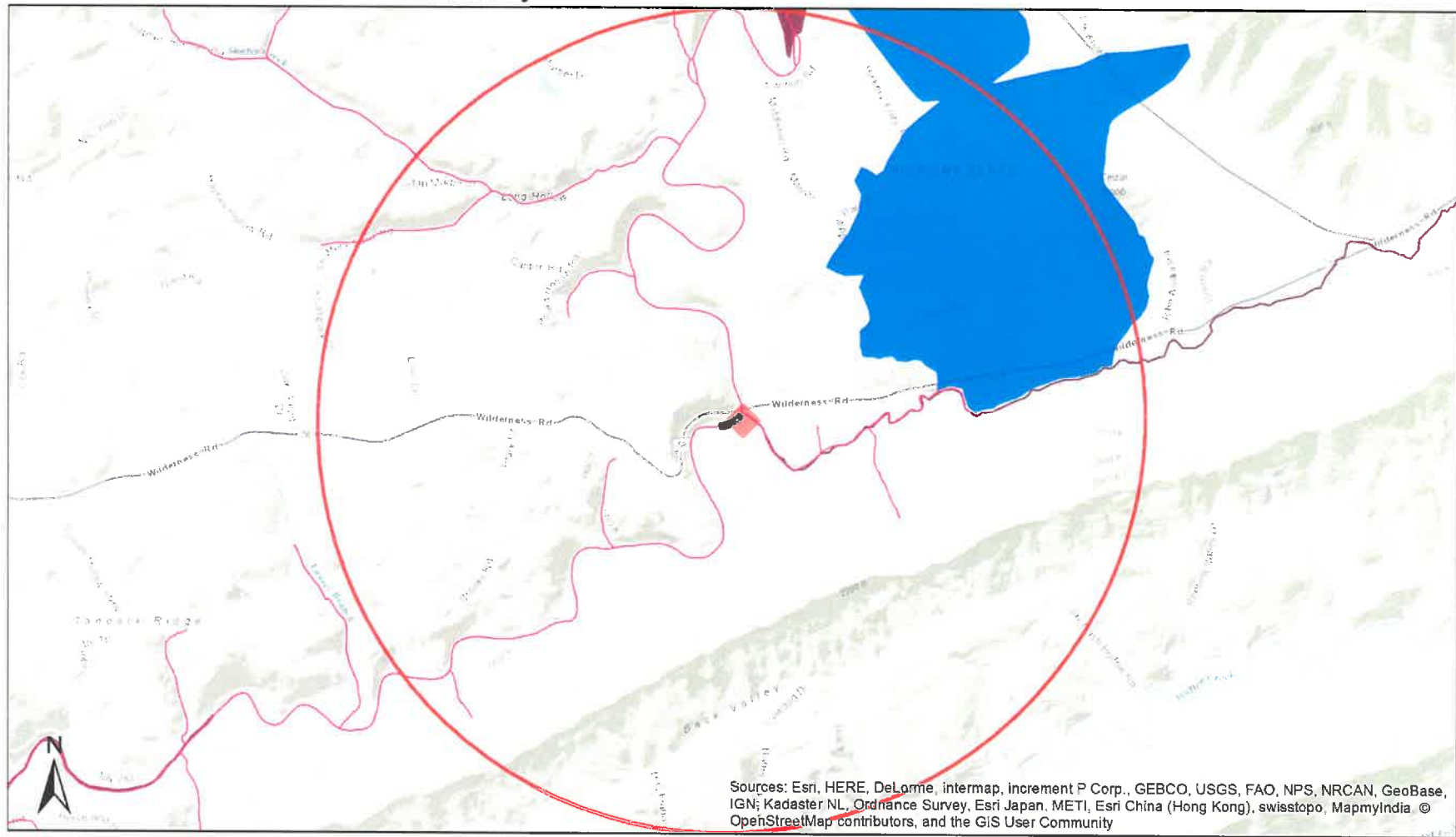
Site Name	Group Name	Common Name	Scientific Name	GRANK	SRANK	Fed Status	State Status	EO Rank	Last Obs Date	Precision
POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE SCU	Invertebrate Animal	Spider Elimia	Elimia arachnoidea	G2G3	S2	SOC	LE	E	2006	
POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE SCU	Invertebrate Animal	Elephant Ear	Elliptio crassidens	G5	S1		LE	E	1996-10-09	S
POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE SCU	Vertebrate Animal	Bluespar Darter	Etheostoma meadiae	G4	S2			E	2014-05-14	S
POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE SCU	Vertebrate Animal	Wounded Darter	Etheostoma vulneratum	G3	S2S3			E	2008-06-05	S
POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE SCU	Vertebrate Animal	Ohio Lamprey	Ichthyomyzon bdellium	G3G4	S2			E	1998-09-09	
POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE SCU	Invertebrate Animal	Spiny Riversnail	Io fluviialis	G2	S2	SOC	LT	E	1994-06-09	
POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE SCU	Invertebrate Animal	Spiny Riversnail	Io fluviialis	G2	S2	SOC	LT	C?	1989	
POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Invertebrate Animal	Tennessee Heelsplitter	Lasmigona holstonia	G3	S1		LE	H	1931	G

Site Name	Group Name	Common Name	Scientific Name	GRANK	SRANK	Fed Status	State Status	EO Rank	Last Obs Date	Precision
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Vertebrate Animal	Mountain Shiner	Lythrurus lirus	G4	S2S3			E	2014-05-14	S
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Vertebrate Animal	River Redhorse	Moxostoma carinatum	G4	S2S3			E	1994-06-09	S
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Vertebrate Animal	Popeye Shiner	Notropis ariommus	G3	S2S3			E	1996-10	
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Vertebrate Animal	Tangerine Darter	Percina aurantiaca	G4	S2S3			E	2009-09-22	S
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Vertebrate Animal	Channel Darter	Percina copelandi	G4	S2			E	1996-10	S
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Vertebrate Animal	Gilt Darter	Percina evides	G4	S2			E	1996-10	S
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Invertebrate Animal	Rough Rabbits Foot	Quadrula cylindrica strigillata	G3G4T 2	S2	LE	LE	E	1996-10-09	S
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Invertebrate Animal	Rough Rabbits Foot	Quadrula cylindrica strigillata	G3G4T 2	S2	LE	LE	E	1989-	S
SCU POWELL RIVER - WALLEN CRK TO SEWELL BRIDGE	Vertebrate Animal	Sauger	Sander canadensis	G5	S2S3			E	1996-10	S
SCU SMYTH CHAPEL BARRENS	Vascular Plant	Drooping Trillium	Trillium flexipes	G5	S1			H	1975-08-17	M

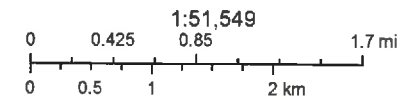
Site Name	Group Name	Common Name	Scientific Name	GRANK	SRANK	Fed Status	State Status	EO Rank	Last Obs Date	Preci sion
Natural Heritage Resources within Search Radius										

Intersecting Predictive Models										
Karst Bedrock										
Predictive Model Results										

Hickory Flats Wastewater Treatment Plant



- | | |
|---|---|
|  Project Area |  Conservation Site |
|  Buffered |  GLNHR |
|  NH Screening Features |  SCU |



Quads: Ben Hur

Counties: Lee

Company: Department of Environmental Quality

Lat/Long: 364149 / -830107



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

The project mapped as part of this report has been searched against the Department of Conservation and Recreation's Biotics Data System for occurrences of natural heritage resources from the area indicated for this project. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in Biotics files, NATURAL HERITAGE RESOURCES HAVE BEEN DOCUMENTED within two miles of the indicated project boundaries and/or POTENTIAL HABITAT FOR NATURAL HERITAGE RESOURCES intersect the project area.

You have submitted this project to DCR for a more detailed review for potential impacts to natural heritage resources. DCR will review the submitted project to identify the specific natural heritage resources in the vicinity of the proposed project. Using the expertise of our biologists, DCR will evaluate whether your specific project is likely to impact these resources, and if so how. DCR's response will indicate whether any negative impacts are likely and, if so, make recommendations to avoid, minimize and/or mitigate these impacts. If the potential negative impacts are to species that are state- or federally-listed as threatened or endangered, DCR will also recommend coordination with the appropriate regulatory agencies: the Virginia Department of Game and Inland Fisheries for state-listed animals, the Virginia Department of Agriculture and Consumer Services for state-listed plants and insects, and the United States Fish and Wildlife Service for federally listed plants and animals. If your project is expected to have positive impacts we will report those to you with recommendations for enhancing these benefits.

There will be a charge for this service for "for profit companies": \$60, plus an additional charge of \$35 for 1-5 occurrences and \$60 for 6 or more occurrences.

Please allow up to 30 days for a response, unless you requested a priority response (in 5 business days) at an additional surcharge of \$500. An invoice will be provided with your response.

We will review the project based on the information you included in the Project Info submittal form, which is included in this report. Also any additional information including photographs, survey documents, etc. attached during the project submittal process and/or sent via email referencing the project title (from the first page of this report).

Thank you for submitting your project for review to the Virginia Natural Heritage Program through the NH Data Explorer. Should you have any questions or concerns about DCR, the Data Explorer, or this report, please contact the Natural Heritage Project Review Unit at 804-371-2708.

ATTACHMENT 6

Enforcement



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

SOUTHWEST REGIONAL OFFICE

Molly Joseph Ward
Secretary of Natural Resources

355-A Deadmore Street, Abingdon, Virginia 24210
(276) 676-4800 Fax (276) 676-4899
www.deq.virginia.gov

David K. Paylor
Director

Allen J. Newman, P.E.
Regional Director

May 16, 2016

Mr. Tracy Puckett
Director
Lee County Public Service Authority
P. O. Box 830
Jonesville, Virginia 24263

RE: Consent Order Requirement – Independent Technical Inspection for 2016
Hickory Flats WWTP, VPDES Permit No. VA0089397

Dear Mr. Puckett:

Item No. 14 of the Appendix A Schedule of Compliance of the Consent Special Order issued by the State Water Control Board to the Lee County PSA on April 10, 2012 requires the Lee County PSA to “[h]ave comprehensive, independent technical inspections of the WWTP conducted by an independent third party each year for the next five years (2012 – 2016); each inspection shall evaluate the effectiveness of the operation and maintenance of the WWTP and associated collection system; each report shall include a list of deficiencies found during the respective inspection, with a schedule for correction of those deficiencies; reports of the annual inspections shall be submitted to DEQ each year no later thanJuly 31, 2012 – 2016”.

This office is in receipt of a letter dated May 3, 2016, submitted by you as Director of the PSA, requesting that the annual independent third-party technical inspection requirement in the existing Consent Order be waived for 2016. As stated in your letter and discussed by DEQ staff with Mr. Alvin Collins, the PSA has spent over \$60,000.00 within the last year for new pumps and rebuilding pumps at several of the pump stations within the Hickory Flats WWTP collection system (items not included as part of the Phase III project).

The requirement for an annual independent third-party technical inspection of the Hickory Flats WWTP was satisfied in 2015 by a DEQ Wastewater Treatment Plant On-Site Assistance and Training Program visit and evaluation by Mr. Wayne Staples. Recommendations from that inspection related in large part to maintenance issues. No serious operational issues were noted.

The PSA is also approaching completion of the Phase III Improvement Project at the Hickory Flats WWTP, a project not required by the existing Consent Order. That scope of work includes replacement of existing piping systems at the WWTP and two pump stations, rehab of the SBR aeration system, replacement of pumping equipment at the Town Branch pump station and addition of a telemetry system for all remote pump stations and the WWTP.

After consideration by DEQ staff of the items noted above, your request as stated in the May 3, 2016 letter has been approved. The requirement for an independent third-party technical inspection is hereby waived for 2016.

Please note that outstanding items in the Consent Order Appendix A Schedule of Compliance include submittal of a User Fee Schedule and operating budget for 2016-2017 (Item 13), and the requirement to inspect, make any needed repairs and/or replacements of pumps and equipment, and of any alarm system equipment, and submit written certification to DEQ that all such equipment associated with all pump stations within the PSA's sewer system is operational and in a good state of repair (Item 12). Per DEQ staff discussions with Mr. Collins, the 2016-2017 budget and rate schedule will be submitted as soon as those items are approved by the PSA board and certification of the operational condition of the pump stations will be provided as soon as work on the Phase III project is completed in late June of this year.

Please contact me at (276) 676-4829 or crystal.bazyk@deq.virginia.gov if you have any questions regarding this letter.

Sincerely,



Crystal C. Bazyk

Enforcement and Air Compliance/Monitoring Manager

cc: Enforcement File
Mark Trent, Water Permits Manager – SWRO
Stewart Phipps, Water Compliance Manager – SWRO
Ruby Scott, Water Compliance Auditor – SWRO

RECEIVED

MAY 06 2016

DEQ SWRO



BOARD MEMBERS

BILL CARTER

RICHARD SHULER

DIRECTOR

TRACY PUCKETT

BOARD MEMBERS

MIKE BRINDLE

ROBERT HORTON

ROGER GATES

PO BOX 830

JONESVILLE, VA 24263

276-346-7775

FAX—276-346-7720

May 3, 2016

Dear Mr. Hilt,

As you know LCPSA is currently under a Consent Order from the State Water Control Board which is effective until July 2016. The outstanding items of the Consent Order consist of submitting a User Fee Schedule for 2016 along with independent technical inspection of the WWTP by a third party for 2016. In 2015 LCPSA requested the independent 3rd party inspection be completed by VDEQ's Wastewater Treatment Plant On-Site Assistance & Training Program to eliminate the added cost for this inspection. Upon your approval the 3rd party inspection was eliminated for 2015 and VDEQ provided the inspection with a very positive report for the LCPSA.

Over the past year LCPSA has continued to build and improve on the wastewater operations at the Hickory Flats Wastewater Treatment Plant. Trainees hired over a year ago have obtained Class 4 operators licenses and we continue to encourage our staff to increase their education. The LCPSA has also invested another \$1,100,000 at the plant in the Hickory Flats Phase III Improvement Project with an estimated completion date in June 2016. These additional improvements not only provide improved operations at the plant but also provide reliability at each pump station with a new SCADA system for real time monitoring. Over the past year LCPSA has incurred over \$60,000 in related cost to make repairs to these pump stations in addition to the Phase III project, with additional improvements at each station as funds become available.

To continue these improvements, LCPSA is requesting the final 3rd party inspection of the Consent Order be eliminated. As you are well aware the top priority of LCPSA and its board is to make any changes necessary to improve its sewer operations not only at Hickory Flats but the other plants as well. Any financial burden that can be eliminated will put money directly back into the sewer operations for increased reliability and operations.

Thank you for your consideration in this matter and the continued support of LCPSA during this process.

If you have any additional questions or comments, please feel free contact me.

Sincerely,

Tracy Puckett,
LCPSA Director